Comparisons of Job Characteristics

Focus Occupation: Computer Hardware Engineers (17-2061)
Associated Occupation: Computer Systems Analysts (15-1051)

Compare Knowledge
Compare Skills
Compare Abilities
Compare Detailed Work Activities
Compare Tools and Technologies

<<	Focus occupation element is much lower
<	Focus occupation element is lower
0	Focus occupation element is at a similar level
>	Focus occupation element is at a higher level
>>	Focus occupation element is at a much higher level

Knowledge — Similarity of Focus Occupation to Associated Occupation: 83

Focus Occupation: Computer Hardware Engineers (17-2061)
Associated Occupation: Computer Systems Analysts (15-1051)

Associated Occupation's Key Knowledge Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating		Evaluation of Focus Occupation
Computers and Electronics	8.4	19.3	22.7	>>	Current knowledge level is likely more than sufficient
Customer and Personal Service	11.3	15.4	11.0	<<	Extensive education and/or training may be required
Education and Training	9.2	13.2	13.0	0	Current knowledge level may be sufficient
Administration and Management	8.4	11.3	10.6	0	Current knowledge level may be sufficient
Engineering and Technology	5.7	11.0	17.2	>>	Current knowledge level is likely more than sufficient
Telecommunications	3.9	6.8	11.6	>>	Current knowledge level is likely more than sufficient

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Skills — Similarity of Focus Occupation to Associated Occupation: 83

Focus Occupation: Computer Hardware Engineers (17-2061)
Associated Occupation: Computer Systems Analysts (15-1051)

Associated Occupation's Key Skills Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating		Evaluation of Focus Occupation
Systems Evaluation	6.4	12.7	9.8	<<	Extensive development of skills in this area may be required
Active Learning	8.7	12.6	12.0	0	Current skill level may be sufficient
Systems Analysis	6.5	12.6	9.7	<<	Extensive development of skills in this area may be required
Operations Analysis	5.0	10.6	10.5	0	Current skill level may be sufficient
Quality Control Analysis	5.9	10.3	8.3	<	A higher skill level may be required

Programming	2.2	10.2	6.1	<<	Extensive development of skills in this area may be required
Technology Design	2.6	9.7	4.5	<<	Extensive development of skills in this area may be required
Troubleshooting	4.5	8.9	8.3	0	Current skill level may be sufficient

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Abilities — Similarity of Focus Occupation to Associated Occupation: 94

Focus Occupation: Computer Hardware Engineers (17-2061)
Associated Occupation: Computer Systems Analysts (15-1051)

Associated Occupation's Key Abilities Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating		Evaluation of Focus Occupation
Deductive Reasoning	10.6	13.9	14.5	0	Current ability level may be sufficient
Information Ordering	9.9	12.9	11.4	<	Some improvement in abilities may be required
Fluency of Ideas	7.6	12.7	9.2	<<	Extensive improvement in abilities may be required
Category Flexibility	9.0	11.8	10.0	<	Some improvement in abilities may be required
Originality	7.6	11.6	9.3	<	Some improvement in abilities may be required
Flexibility of Closure	7.8	10.4	7.9	<<	Extensive improvement in abilities may be required
Mathematical Reasoning	6.3	10.3	7.4	<<	Extensive improvement in abilities may be required
Speed of Closure	5.9	8.8	3.5	<<	Extensive improvement in abilities may be required

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Activities that Both Occupations Have in Common — Similarity of Focus Occupation to Associated Occupation: 82

Focus Occupation: Computer Hardware Engineers (17-2061)
Associated Occupation: Computer Systems Analysts (15-1051)

Work Activities	Exclusivity of Activity
Communicate technical information	4
Create mathematical or statistical diagrams or charts	43
Design computer hardware or software interface	87
Design control systems	78
Develop mathematical simulation models	70
Develop or maintain databases	30
Develop tables depicting data	33
Evaluate computer system user requests or requirements	81

Evaluate prototype computer software systems	89
Follow data security procedures	77
Follow data storage procedures	75
Make presentations	13
Prepare technical reports or related documentation	22
Provide technical computer training	82
Provide technical support to computer users	80
Test computer programs or systems	78
Use computer networking technology	81
Use computer programming language	82
Use computers to enter, access or retrieve data	3
Use knowledge of mainframe computers	78
Use project management techniques	47
Use relational database software	26
Use spreadsheet software	18
Write business project or bid proposals	48

Not all positions in these occupations will necessarily perform all of the listed activities. The exclusivity rating is an indication of how unique the activity is amongst all occupations. The maximum rating is 100. High scores indicate that only a small number of occupations engage in that activity.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Tools and Technologies that Both Occupations Have in Common

Similarity of Focus Occupation to Associated Occupation: 80

Focus Occupation: Computer Hardware Engineers (17-2061)
Associated Occupation: Computer Systems Analysts (15-1051)

Tools and Technologies	Exclusivity
Business function specific software	1
Computers	1
Content authoring and editing software	1
Data management and query software	1
Development software	4
Industry specific software	1
Network applications software	1
Operating environment software	12

Not all positions in these occupations will necessarily use all of the listed tools and technologies. The exclusivity rating is an indication of how unique the tool or technology is amongst all occupations. The maximum rating is 100. High scores indicate that only a small number of occupations use that tool or technology.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.